WHAT IS CLAIMED IS:

1. A force-applying input device comprising:

a joystick operation section;

a position sensor for detecting an operation state of the operation section;

an actuator for applying an external force to the operation section; and

a control section for controlling drive of the actuator based on a position signal output from the position sensor, the control section computing operation amounts and operation directions of the operation section based on the position signal, and controlling the drive of the actuator, wherein,

when the operation section is operated in one direction from a start position, an external force which increases with an increase in the operation amount is applied in a direction opposite to the operation direction of the operation section until the operation amount of the operation section reaches a predetermined operation amount,

when the operation amount of the operation section reaches the predetermined operation amount, the external force corresponding to that when the predetermined operation amount is reached is applied in the direction opposite to the operation direction of the operation section,

when the operation section is stopped, the external force applied to the operation section is reduced with an increase in a returning amount of the operation section from a stopping position of the operation section,

when the returning amount of the operation section reaches a predetermined returning amount equal to the predetermined operation amount, the application of the external force to the operation section is stopped, and

when the operation direction of the operation section is changed during the operation of the operation section, a direction of application of the external force in which a resultant of a first component applied in the direction opposite to the operation direction of the operation section prior to changing the operation direction and a second component applied in a direction opposite to the operation direction of the operation section after changing the operation direction is equal to the external force corresponding to that applied to the operation section when the predetermined operation amount is reached is repeatedly computed in order to apply the external force equal to the resultant in the computed external force application direction, the first component being gradually reduced and the second component being gradually increased with an increase in the operation amount of the operation section after changing the operation direction.

2. A force-applying input device according to Claim 1, wherein, when the operation section is operated in one direction from the start position, the increase in the external force until the operation amount of the operation section reaches the predetermined operation amount from the start position and the reduction in the external force until

the returning amount of the operation section reaches the predetermined returning amount from the stopping position are computed in accordance with linear functions having slopes greater than 0.

3. A force-applying input device according to Claim 1, wherein, when the operation direction of the operation section is changed during the operation of the operation section, the direction of application of the external force is computed in accordance with an exponential function having an exponent greater than 1.